

Section II. Remarks

Amendment of Claim 1 to Overcome Amendment Thereof

In the September 29, 2004 Office Action, claim 1 was objected to for a typographical error, in the spelling of "selective." Claim 1 has been amended herein to overcome such objection.

Rejection of Claims on Reference Grounds and Traversal Thereof

In the September 29, 2004 Office Action, claims 1-32 of the application have been rejected on reference grounds, including:

a rejection of claims 1-8, 11, 12, 14-17, 19-22 and 24-32 under 35 USC § 102(b) as anticipated by Tom, et al. '305 ("Tom"); and

a rejection of claims 9, 10, 13, 18, 23 and 30 under 35 USC § 103(a) as unpatentable over Tom, in view of Wang, et al. '027 ("Wang").

These rejections are traversed, and reconsideration of the patentability of claims 1-32 is requested in light of the ensuing remarks.

Patentable Distinction of Claims 1-32 Over the Cited Art

In response to the rejections of claims based on Tom and Wang, independent claims 1, 22 and 25 have been amended herein to more specifically demarcate over the disclosures of these cited references.

Specifically, claim 1 has been amended to recite:

"the flow circuitry being operably arranged for repetitive first and second phases of operation until said vessel is charged with gas to a predetermined full fill state at a predetermined pressure, followed by termination of gas flow to the vessel and removal of said vessel from the flow circuitry for sealing of the vessel, whereby said vessel after said removal and sealing stores gas in said predetermined full fill state and at said predetermined

pressure, for subsequent dispensing.”

Claim 22 has been analogously amended.

Claim 25 has been amended to recite:

“removing said vessel from closed flow communication with the gasifying source liquid; and sealing said vessel, whereby said vessel contains gas at said predetermined pressure level, for subsequent storage and dispensing.”

The claims as thus amended patentably demarcate over:

- (1) the disclosure of Tom (in respect of claims 1-8, 11, 12, 14-17, 19-22 and 24-32, previously rejected on § 102(b) grounds over such reference) and
- (2) the combination of disclosures of Tom in view of Wang (in respect of claims 9, 10, 13, 18, 23 and 30, rejected on § 103(a) grounds over such combination of references).

The amendatory language introduced in claims 1, 22 and 25 is fully consistent with, and supported by, the as-filed disclosure of the application.

No new matter (35 USC § 132) has been added.

Concerning the § 102 rejection of claims 1-8, 11, 12, 14-17, 19-22 and 24-32, Tom has been cited as disclosing a pressurized gas system including a cryopump 116 and valve and heating components, arranged to provide the gas to a storage or use device.

Tom is directed to a cryopumping arrangement in which gas from a gas storage and dispensing vessel is cryopumped to appropriate pressure for downstream utilization, e.g., in a semiconductor manufacturing facility.

Although Tom discloses cryopumping of fluid to a medium pressure cylinder 120, as shown in FIG. 7 of such reference, the medium pressure cylinder is merely a surge vessel or hold-up tank, which functions to smooth out the gas flow in the dispensing operation, as described at column 13, lines 47-50. Such medium pressure cylinder 120 is part of the flow circuitry and is never detached or separated from the flow circuit, but rather remains in place for the purpose of providing holding tank volume and smoothing variations of flow rate in the delivery of gas to

the downstream installation.

By contrast, applicant's invention is directed to charging of a gas storage and dispensing vessel that is removed from the flow circuitry for sealing of the vessel, e.g., as disclosed at page 14, lines 6-8 of the specification ("the charging operation is terminated, and the vessel can be sealed in a conventional manner, such as by capping of the fill port 50 in the illustrative embodiment shown in FIG. 1").

The gas charging system of claims 1-24 and the gas charging method of claims 25-32 find no derivative basis in Tom, for the reasons stated above. Further, if the medium pressure vessel 120 of Tom were removed from the FIG. 7 installation described in such reference (analogous to the post-fill removal of the vessel in the system and method of the present invention), the resulting modified system of Tom would be defective for its intended purpose, since there would be no hold-up volume of gas in the flow circuit to smooth out variations in flow to the downstream gas-using installation.

On such basis, Tom fails to disclose or suggest the applicant's claimed system or method. Claims 1-8, 11, 12, 14-17, 19-22 and 24-32 are patentably distinguished over Tom, and it is respectfully requested that the §102 rejection of such claims be withdrawn.

Concerning the rejection of 9, 10, 13, 18, 23 and 30 on § 103(a) grounds as unpatentable over Tom in view of Wang, the latter reference has been cited as disclosing the provision of a regulator inside the storage and dispensing vessel (see page 3 of the September 29, 2004 Office Action, referring to Wang, et al. '027 as showing "placing the regulator inside the storage tank").

It is noted that the claims 9, 10, 13 and 18 depend from claim 1, claim 23 depends from claim 22, and claim 30 depends from claim 25. These dependent claims are correspondingly patentably distinguished over the art, by reason of their dependence, for the same reasons advanced hereinabove in support of the patentability of independent claims 1, 22 and 25, since the provision of a regulator in the gas storage and dispensing vessel of Tom does not alter the fact that claims 1, 22 and 25 are patentable, as are all claims dependent therefrom.

Claims 1-32 thus fully patentably distinguish over the art, and are in form and condition for

allowance.

As a peripheral matter, it is noted that in respect of the dependent claims 9, 10, 18 and 23, the examiner has taken "Official Notice" of alleged conventional practices. While applicant traverses such Official Notice as being unsupported by any documentary evidence of record (see MPEP § 2144.03), it nonetheless is clear that these dependent claims 9, 10, 18 and 23 are patentably demarcated over the art, by virtue of their dependence from patentable independent claims.

Claims 1-32 are now in appropriate form for allowance.

Citation of Additional Background References

In the September 29, 2004 Office Action, additional art has been made of record, but not relied on (references of Birch, et al., Torres, et al., Friedt, et al., Langan, et al., Botelho, et al., Hansen, et al. and Driehuys, et al.). Such references have been reviewed, but they do not raise any additional issues of patentability.

CONCLUSION

Claims 1-32 as amended are now in condition for allowance. Issue of a Notice of Allowance is therefore requested.

If any remaining issues exist, the examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss their resolution, in order that this application may be passed to issue at an early date.

Respectfully submitted,



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